



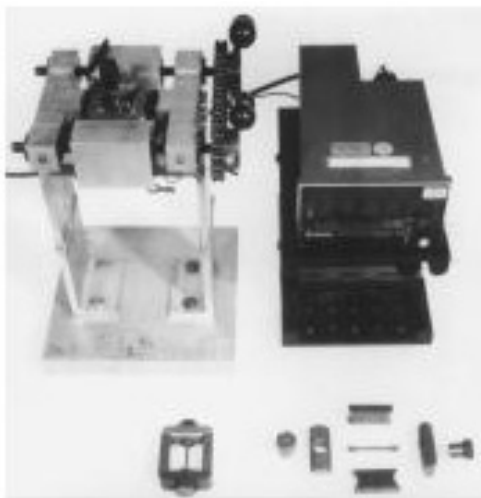
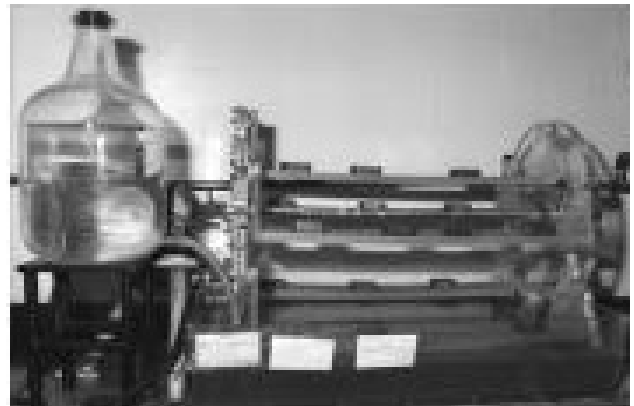
STRESS CORROSION TEST FACILITY

Purpose:

To provide stress corrosion data to our customers (payloads, projects and Shuttle elements) in support of MSFC's strategic initiatives.

Personnel in the Metallic Materials and Processes Group perform stress corrosion investigations of aerospace metallic materials and welds that are used or with potential applications in NASA programs. The results are obtained by using equipment that permits testing according to the American Society for Testing and Materials. Among the programs supported with this work are the Super Light Weight Tank, the International Space Station, the Space Shuttle Main Engine, the Redesigned Solid Rocket Motor, and the Solid Rocket Booster Programs. We strive to meet the needs of NASA programs by screening materials for stress corrosion resistance, which helps selecting better material for flight hardware and ground support equipment. These characterizations can predict the behavior of metals when subjected to sustained tensile stresses in a corrosive environment. The equipment at the Stress Corrosion Test Facility includes four corrosion testers to test in 3.5-percent sodium chloride (simulated salt water) alternate immersion in accordance with ASTM G44, two chambers that permit testing in a 5-percent salt spray per ASTM B117 and two humidity cabinets for testing in high humidity with no salt. This testing can identify materials with

high, moderate, and low resistance to stress corrosion cracking in sodium chloride and high humidity environments. Materials evaluated by using these techniques include aluminum alloys, ferrous alloys, nickel alloys, and other miscellaneous metals.



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